CLAIMS:

1. A miter saw comprising:

a base assembly defining a cutting zone and configured to support workpieces in the cutting zone;

a pivot arm coupled to the base assembly and selectively moveable toward and away from the cutting zone;

a motor assembly;

a rotatable arbor supported by the pivot arm and driven by the motor assembly;

a rotatable blade mounted on the arbor and configured to cut workpieces supported within the cutting zone;

a detection system configured to detect one or more dangerous conditions between a person and the blade; and

a reaction system configured to urge the pivot arm away from the base assembly upon detection by the detection system of the one or more dangerous conditions.

2. The miter saw of claim 1, where the reaction system is configured to urge the pivot arm at least one-eighth of an inch away the base assembly after the detection system detects the one or more dangerous conditions.

3. The miter saw of claim 1, where the reaction system is further configured to stop the rotation of the blade.

4. The miter saw of claim 1, further comprising a tilt mechanism between the base assembly and the pivot arm, where the tilt mechanism is configured so that the pivot arm may tilt relative to the base assembly.

5. The miter saw of claim 4, where the reaction system comprises a brace member and a retraction assembly; where the brace member is coupled to the tilt mechanism and the retraction assembly; where the retraction assembly is coupled to the pivot arm; and where the retraction assembly is configured to grip the brace member and urge the pivot arm upward away from the base assembly when the detection system detects the one or more dangerous conditions between a person and the blade.

6. The miter saw of claim 5, where the brace member comprises a elongate shaft pivotally coupled to the tilt mechanism.

7. The miter saw of claim 6, where the shaft is serated.

8. The miter saw of claim 5, where the retraction assembly comprises:

a housing pivotally coupled to the pivot arm, where the housing is adapted to slidably receive the brace member;

a clamping device adapted to grip the brace member; and

a drive mechanism adapted to urge the housing upward relative to the clamping device.

9. The miter saw of claim 8, where the retraction assembly further comprises:

a restraining mechanism configured to maintain the clamping device in a nominal position until the detection system detects the one or more dangerous conditions.

10. The miter saw of claim 9, where the restraining mechanism comprises a collapsible structure.

11. The miter saw of claim 10, further comprising a fusible member adapted to prevent the collapsible structure from collapsing until the detection system detects the one or more dangerous conditions.

12. The miter saw of claim 8, where the drive mechanism includes at least one spring.

13. The miter saw of claim 12, where the at least one spring comprises a stack of Belville springs.

14. The miter saw of claim 8, where the drive mechanism is configured to provide an upward force relative to the base assembly in the range of 100 to 500 pounds.

15. A miter saw comprising:

a base assembly defining a cutting zone and configured to support workpieces in the cutting zone;

a pivot arm coupled to the base assembly and selectively moveable toward and away from the cutting zone;

a motor assembly;

a rotatable arbor supported by the pivot arm and driven by the motor assembly;

a rotatable blade mounted on the arbor and configured to cut workpieces supported within the cutting zone;

a detection system configured to detect one or more dangerous conditions between a person and the blade; and

reaction means for urging the pivot arm away from the base assembly upon detection by the detection system of the one or more dangerous conditions.